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attention will be directed to the influences of Universities (Salerno, Bologna, Padua); Academies (Royal Society, dei Lincei, del Cimento); the short focus microscope (Leewenhoeck); the cluster of kindred sciences. Furthermore, the transmission of anatomical terminology from the Greek, through the Syriac and Arabic to the Latin and the further point that the terms made their way through the fields of the fanciful, the dogma, the ancillary and the precise phases — these too will show that anatomy struggled to attain a rank of dignity in the hierarchy of knowledge. Perhaps there is some justification in speaking of an anatomia "sanctus" (Pre-Greek); an anatomia "doctor" (Greco-Roman-Arabic); an anatomia "animata" (Renaissance); and an anatomia "scientia" (Modern).

153. *High-order integrative functions in surgically isolated somatic cortex in cat.*[1] R. W. SPERRY, Division of Biology, California Institute of Technology.

It had been shown that tactile discriminations for hardness, roughness, and shape learned with use of one forepaw in a pedal-pressing apparatus, transfer at high level to the untrained forepaw in unoperated cats whereas such transfer fails in cats with sectioned corpus callosum. In the present experiment most of the neocortex was removed from the right hemisphere in 4 callosum-sectioned cats leaving intact an island of anterior cortex in and around somatic areas I and II. This produced no more than a transient impairment of preoperatively trained tactile discriminations, nor did it markedly retard the learning of new discriminations all performed with the affected (left) forepaw. Subsequent surgical damage centered in the isolated cortical remnant of one case abolished all further discrimination with the left paw. Additional cortical lesions placed some months later in the contralateral (left) somatic cortex of the remaining 3 animals impaired severely the discriminative performance with the right paw to the extent of eliminating it entirely when the lesion approached in size the intact cortical island on the right. However, these later lesions did not impair the discriminative performance with the left paw. The results indicate that the cortical reintegration directly involved in learning, retention, and recall of tactile discrimination can be effected within the limits of the isolated sector of cortex.

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161. *Effects of epinephrine on carbohydrate metabolism in underfed and ad libitum fed rats.*[1] B. N. SPIRTOS and N. S. HALMI, Department of Anatomy, State University of Iowa.

Young adult male rats of the Sprague-Dawley strain were used to study the influence of epinephrine on carbohydrate metabolism in under-fed rats and *ad libitum* fed controls. The experimental animals were fed 10 gm of powdered Rockland chow daily (i.e., approximately one half of the amount of food consumed by rats on a non-restricted diet) for 4-5 weeks. Following a 24 hour fast, the underfed rats showed less rise in liver glycogen and blood sugar levels in response to the injection of epinephrine than did *ad libitum* fed-fasted rats. Gastrocnemius glycogen levels were found to be higher in underfed-fasted